

ABSTRACT

ULTRASONIC TRANSDUCER STRUCTURES

The present invention provides an ultrasonic transducer structure, comprising a first ultrasonic transducer element (1), arranged and operable for transmitting an ultrasonic signal from a front face of the structure, damping material (2) at the back of the first ultrasonic transducer element (1), and a second ultrasonic transducer element (3) in or on the damping material behind the first ultrasonic transducer element (1), arranged and operable to receive sound energy propagated through the damping material (2) when the first ultrasonic transducer element (1) is operated to transmit an ultrasonic signal from the front face. Although sound energy propagating through the damping material (2) is rapidly attenuated, sound energy of a sound pulse travelling to the second ultrasonic transducer (3) from the back face of the first transducer element 1 can be received and the size or amplitude and time delay (arrival time) of this pulse can be monitored and from this information the performance of the first transducer element (1) concerned can be monitored.